

2021

18th Annual

EXCELLENCE IN

STRUCTURAL ENGINEERING
AWARDS



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

Brent Woods (Judge 2007 thru 2021):

"I am always proud of our profession when I see the excellent work that we all do."



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

Awards History (2004 thru 2021)

- *** Years = 18**
- **Entries** = 115
- ***** Awards = 89
 - * Structural Excellence = 35
 - ★ Merit Awards = 54

All AWARD WINNERS (2021 thru 2004) are listed at the end of this presentation.



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021 **EXCELLENCE IN** STRUCTURAL ENIGERING AWARDS





STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021
Excellence in Structural Engineering Award

New Buildings, Over \$10 Million Dollars

Banner University Medical Center
Hospital Tower
Tucson, AZ

presented to

Martin, White & Griffis Structural Engineers, Inc.







Project Summary

When Banner Health purchased the 1970's era University of Arizona Medical Center in 2015, the campus was in disrepair and the community distrustful of the care. A revitalization plan included a new nine-story 670,000-square-foot clinical tower adjoining the existing facility. By devising a flexible structural system that capitalized on processes and integrated project delivery (IPD)-related timing, the new Banner University Medical Center Hospital Tower accommodates future growth, overcame incredible site challenges and remained within the \$350M budget despite steep escalation, ultimately facilitating the Center's shift to a world-class academic medical teaching facility.

2021



Banner University Medical Ctr Hospital Tower Martin, White & Griffis







2021



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021
Excellence in Structural Engineering Award

New Buildings, Over \$10 Million Dollars

Mirabella
Arizona State University
Tempe, AZ

PK Associates, LLC







STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA EXCELLENCE IN STRUCTURAL ENGINEERING

Project Summary

Mirabella brings a unique retirement experience to Arizona State University. It's located in the heart of an urban oasis, providing numerous social, educational, and recreational activities to the residents.

The project features a 454,205 square foot L-shaped senior living building, with 20-story and 13-story wings, over two levels of below grade parking. The facility provides 252 independent living units and 52 assisted living/skilled nursing/memory care units.









2021 Excellence in Structural Engineering Award Winners

PROJECT	FIRM	CATEGORY
Banner University Medical Center Hospital Tower	Martin, White & Griffis	New Buildings, Over \$10M
Mirabella at ASU	PK Associates, LLC	New Buildings, Over \$10M





2021 MERIT AWARDS IN STRUCTURAL ENIGEERING





STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021
Merit Award in Structural Engineering

New Buildings, Over \$10 Million Dollars

Pima Community College Transportation Center Tucson, AZ

presented to

DLR Group







Project Summary

The Transportation Center at Pima Community College's Center of Excellence for Applied Technology is 43,000 SF with a total of 27 work bays, including 10 EV-ready, 3 heavy transportation, 3 OEM labs, and spaces for testing and diagnosis of electrical vehicles, faculty offices, classrooms, a dynamometer room, equipment storage, and a large public entry. The structural design focuses on responding to flexibility and visibility, resulting in a state-of-the-art, handson learning environment reflected in the vast amount of exposed steel. This involved using a high degree of coordination and unique framing concepts, which the team termed as "structural gymnastics."









STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021

Merit Award in Structural Engineering

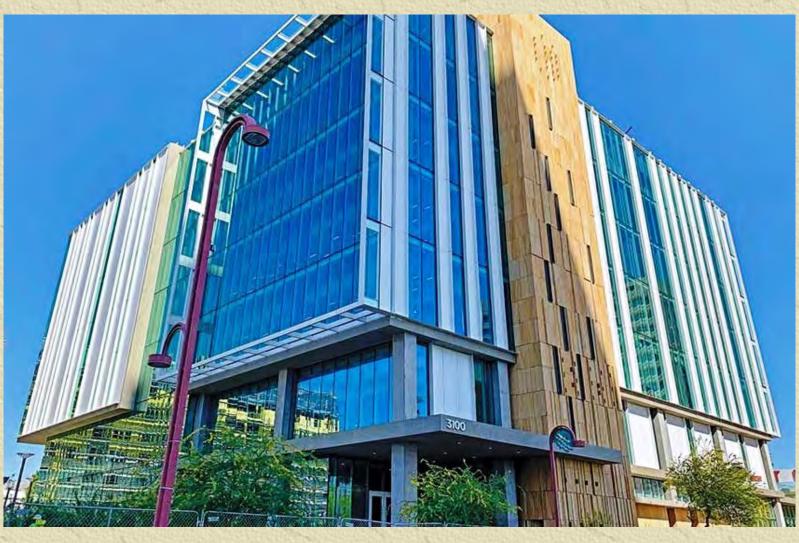
New Buildings, Over \$10 Million Dollars

Creighton University
Health Services Campus
Tempe, AZ

presented to

PK Associates, LLC







Project Summary

Omaha, Nebraska-based Creighton University has expanded its Phoenix medical school campus on the revitalized Park Central Mall property. The project consists of a 7-story, 183,000 SF health sciences building with classrooms, a 6,000 SF CEC (Community Education Center), and a 30-seat non-denominational chapel. The campus will be home to a full, four-year medical school, a nursing program as well as pharmacy, occupational therapy, physical therapy, and physician assistant programs. The construction type is post-tension slabs with cast-in-place concrete walls and columns.



M E R I

2021







STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

Agrit Award in Structural Engin

Merit Award in Structural Engineering

New Buildings, Over \$10 Million Dollars

Phoenix Suns Verizon 5G Performance Center Phoenix, AZ

PK Associates, LLC



2021







Project Summary

The Phoenix Suns Verizon 5G Performance Center is a one-of-a-kind training facility. From inception to completion, the 55,812 square foot facility was delivered in only 18 months. At the heart of this state-of-the-art facility are two basketball courts with dedicated training space for both the Phoenix Suns and Phoenix Mercury. The facility is infused with technology which provides real-time information on player's movement, mechanics and progress. The facility also provides generous gathering areas for the teams to relax and recover.



2021





STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021

Merit Award in Structural Engineering

New Buildings, \$2 Million to \$10 Million Dollars

Asante Park Library Surprise, AZ

Pangolin Structural LLC







Project Summary

Asante Library is a 10,000 SF, \$4.5M design-build library project operated by the Maricopa Library District and owned by the City of Surprise. The building is constructed on a built-up building pad with perimeter concrete retaining walls to accommodate a drainage basin in the park. Elegant, cantilevered shade canopies surrounding the perimeter reduce direct sunlight on the building's glass exterior. The structure consists of a steel beam roof to steel columns, masonry bearing walls and spread footings on a built-up building pad to accommodate a drainage basin.



R







STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021 Merit Award in Structural Engineering

New Buildings, \$2 Million to \$10 Million Dollars

Supima Agave Center Tempe, AZ

presented to
Pangolin Structural LLC



M E R







STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA **EXCELLENCE IN STRUCTURAL ENGINEERING**

Project Summary

Supima Agave Center in Tempe, AZ, is headquarters to one of the premier cotton promoters in the US. The structure is comprised of two, 23,000SF two-story exposed masonry buildings. The buildings have multiple masonry wing walls with staggered blocks to give the interior uninterrupted natural light. These masonry walls are designed with vertical reinforcing free-spanning to roof bond beams. The elevated floor and roof are framed with steel beams free spanning the entire 41'-0" interior space with beams cantilevering off the two interior masonry walls with a tapered end to create a shared, exposed steel catwalk and courtyard area between structures.



Supima Agave Center

M E R I T





STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA EXCELLENCE IN STRUCTURAL ENGINEERING



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021

Merit Award in Structural Engineering

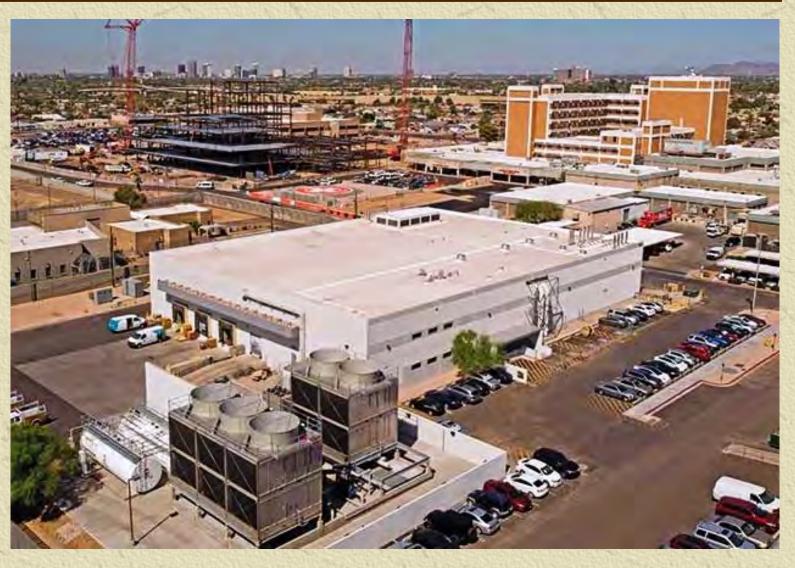
Forensic/Renovation/Retrofit/Rehabilitation

Valleywise Health Central Plant Phoenix, AZ

presented to

Martin, White & Griffis Structural Engineers, Inc.







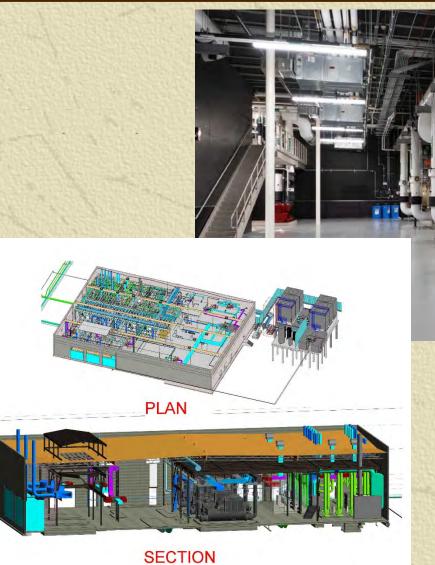
M E R I T

Project Summary

Central utility plant (CUP) projects are typically straightforward affairs, but the new CUP at Valleywise Health's Phoenix campus was anything but. Built in one third of its previous space within an existing warehouse structure in the middle of campus, the CUP successfully brought services online and fed the new utility grid serving the medical campus, all while delivery of materials and supplies from the warehouse to the hospital were still ongoing. Central to the success was the design of a 20,000 square foot steel with openings and still functional structure administrative/warehouse space fully integrated within the existing tilt-up warehouse.



M E R I T





M E R I T 2021



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2021 Merit Award in Structural Engineering

Forensic/Renovation/Retrofit/Rehabilitation

Airport I-10 Restoration
(Building Foundation Stabilization & Restoration)

Phoenix, AZ

PK Associates, LLC



Airport I-10 Restoration (Foundation Stabilization & Restore) PK Associates

M E R I T





Airport I-10 Restoration (Foundation Stabilization & Restore) PK Associates

M E R I T

Project Summary

In October Arizona Foundation Solutions, PK & Associates, Wespac, Hoque & Associates, and Pangolin Structural were contacted by Wentworth Properties to stabilize and raise a 279,000 sf tilt up building that settled up to 15 inches in some locations. Panels had separated, structural components were compromised and the building was continuing to settle at over ½" per month due to little understood subsurface geologic forces.

Emergency shoring and underpinning were directed by the engineers to stop the immediate threat of collapse, followed by a more comprehensive design of deep piles and compaction grouting that penetrated buried concrete debris.



Airport I-10 Restoration (Foundation Stabilization & Restore) PK Associates

M E R I T





2021 Merit Awards in Structural Engineering

PF	ROJECT	FIRM	CATEGORY
	ma Community College ansportation Center	DLR Group	New Buildings, Over \$10M
	eighton University ealth Services Campus	PK Associates, LLC	New Buildings, Over \$10M
THE REAL PROPERTY.	noenix Suns erizon 5G Performance Center	PK Associates, LLC	New Buildings, Over \$10M
As	sante Park Library	Pangolin Structural LLC	New Buildings, \$2M -\$10M
Sı	upima Agave Center	Pangolin Structural LLC	New Buildings, \$2M -\$10M
Va	alleywise Central Health Plant	Martin, White & Griffis Structural Engineers, Inc.	Forensic/Renovation/ Retrofit/Rehabilitation
47 1 14 1 1 1 1 1 1	rport I-10 Restoration uilding Foundation Stabilization & Restoration)	PK Associates, LLC	Forensic/Renovation/ Retrofit/Rehabilitation





- Banner Univ.Med.Ctr Hospital Tower Martin, White & Griffis
- Mirabella @ ASU PK Associates, LLC

- PimaCC Transportation Center DLR Group
- Creighton Univ. Health Services Campus PK Associates, LLC
- Suns Verizon 5G Performance Center PK Associates, LLC
- Asante Park Library Pangolin Structural LLC
- Supima Agave Center Pangolin Structural LLC
- Airport I-10 Restoration PK Associates, LLC
- Valleywise Health Central Plant Martin, White & Griffis



Judges, 2021

2004 thru 2021 (18 years)

- * Sal Caccavale, Retired/Committee Chair (Tucson)
- 2007 thru 2021 (15 years)
- * Brent Woods, Woods Structural (Tucson)
- 2009 thru 2016, 2018 thru 2021 (12 years)
- * Paul Scott, Caruso Turley Scott, Inc. (Central)
- 2015 thru 2021 (7 years)
- ★ Janelle Perry, JP Structural (Tucson)
- 2017 thru 2021 (5 years)
- * Greg Bakkum, Bakkum Noelke (Central)
- 2021 (1st year)
- * Andrew Netupsky, Structural Engineers Co. (Central)
- * Allan Ortega, M3 Engineering (Tucson)





- Mo Glancy, Retired City of Phoenix (Central) 2004 thru 2020 (17 years)
- ** Bruce Barrera, Retired CBH Consulting Engrs (Central) 2004 thru 2018 (15 years)
- George Stevenson, Structural Concepts (Tucson)

 2009 thru 2014, 2019 (7 years)
- * Dan Lundwall, Retired Structural Concepts (Tucson) 2006, 2008 (2 years)
- * Steven Hess, Hess Structural Engineering (Tucson) 2006 (1 year)
- * Bill Sheely, OWP (Architect, Phoenix) 2004, 2005, 2006 (3 years)
- Mo Modi, Modi & Company (Tucson) 2004, 2005 (2 years)
- Henry Tom, Line & Space (Architect, Tucson)
 2004, 2005 (2 years)



SEAoA Awards Committee

WILL YOU HELP?

- In need of a Co-Chair (Full Member)
- Future Judges (Full Members)
- Contact Sal Caccavale: seccbc@cox.net



Excellence in Structural Engineering Award

WILL THIS BE YOU?

Mark Your Calendars for March 2022 Announcement!



Closing Notes

- This presentation will be available for viewing on the SEAoA website.
- Award winning projects will be featured in the upcoming 2021-2022 SEAoA quarterly newsletters.



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

EXCELLENCE IN STRUCTURAL ENGINEERING

AWARD WINNERS 2021 thru 2004





- Banner Univ.Med.Ctr Hospital Tower Martin, White & Griffis
- Mirabella @ ASU PK Associates, LLC

- PimaCC Transportation Center DLR Group
- Creighton Univ. Health Services Campus PK Associates, LLC
- Suns Verizon 5G Performance Center PK Associates, LLC
- Asante Park Library Pangolin Structural LLC
- Supima Agave Center Pangolin Structural LLC
- Airport I-10 Restoration PK Associates, LLC
- Valleywise Health Central Plant Martin, White & Griffis



- UA Health Sciences Innovation Bldg Martin White & Griffis
- Block 23 @ CityScape PK Associates, LLC
- The Watermark Tempe PK Associates, LLC
- Adaptive Reuse at 225 W. Madison The DLR Group
- NAU Kitt Recital Hall Meyer Borgman Johnson
- UA Skaggs Bldg Addition/Renovations Martin White & Griffis

* Excellence in Structural Engineering * Merit Award in Structural Engineering

- American Express New Canyon Bldg Meyer Borgman Johnson
- Desert Diamond West Valley Casino PK Associates, LLC
- CHASSE Headquarters Wright Engineers



<u>2019</u> <u>Award Winners</u>

Excellence in Structural Engineering

<u>UA Bioscience Research Laboratories</u>
 <u>Building</u>

Martin, White, & Griffis

Bighorn Golf Clubhouse
 PK Associates, LLC

Merit Award in Structural Engineering

 Cruzen-Murray Library, College of Idaho

Pangolin Structural LLC

 The Clayton House Wright Engineers

2018 Award Winners

* Excellence in Structural Engineering

- Interdisciplidical Sciences
 Partnership Building
 Martin, White, & Griffis
- Canyon View HS, Agua Fria USD DLR Group

Merit Award in Structural Engineer's

- Tucson Air Traffic Control Tower Buehler & Buehler
- Pima Air & Space Museum Canopy Schneider Structural Engineers
- Sayward North Hatchery Building Structural Engineers Company



* Excellence in Structural Engineering * Merit Award in Structural Engineering

- OdySea Aquarium, Scottsdale, AZ Caruso Turley Scott
- Sky Harbor Terminal 3 Modernization Gannett Fleming, Inc.

- SRP Admin. Building Betterment Buehler & Buehler
- State of Alaska Library & Archives Museum
- Schneider Structural Engineers Wings Over Water, Houston, Texas
 - Schneider Structural Engineers
- The Airmen Memorial Bridge Structural Concepts, Inc.
- The Mullin's Landfill Bridge Structural Concepts, Inc.



<u>2016</u> <u>Award Winners</u>

* Excellence in Structural Engineering

- Block 12, AZ State University, PK Associates, LLC
- Daniel K. Inouye Solar Telescope
 M3 Engr'g & Technology
- Headframe #1 Modifications
 Hanlon Engineer'g & Architecture

Merit Award in Structural Engineering

- Sonoran Passage Art Sculptures
 M3 Engr'g & Technology
- The Rey, 28-Story Apartment Bldg PK Associates
- Repair of ASR-Contaminated Piles QuakeWrap, Inc.
- Hamstra Heating & Cooling HQ
 Structural Concepts, Inc.
- Gov't of Bangladesh Flour Mill
 Structural Engineers Company
- <u>Kino Parkway Overpass, 22nd St.</u> Structural Grace, Inc.



2014 Award Winners

* Excellence in Structural Engineering

- Fine Ore Storage Building, Cananea,
 M3 Engr'g & Technology
- Primary Sedimentation Basin, Budd Inlet HDR Engineering, Inc

Merit Award in Structural Engineering

• <u>Strengthening of Communication Towers</u> QuakeWrap, Inc.

* Excellence in Structural Engineering

 McCord Hall, AZ State University, Meyer Borgman Johnson

Merit Award in Structural Engineering

- Dome Ventilation at CFH Telescope,
 M3 Engr'g & Technology
- Terminal 5 Seismic Upgrade, LAX, Buehler & Buehler
- Parasol Building,
 Schneider Structural Engineers
- PCWIN-PECOC Building,
 Schneider Structural Engineers



* Excellence in Structural Engineering

Landscape Evolution Laboratory
 Biosphere 2, Oracle, AZ
 M3 Engineering & Technology

2012 Award Winners

Excellence in Structural Engineering

 Interdisciplinary Science & Technology Bldg IV, Arizona State University
 Paragon Structural Design

Merit Award in Structural Engineer'g

- <u>Unisource Energy Office Tower</u> Grenier Engineering, Inc.
- The Green Wall
 M3 Engineering & Technology



<u>2011</u> <u>Award Winners</u>

Excellence in Structural Engineering

Hoover Dam Bypass
 Mike O'Callaghan-Pat Tillman
 Memorial Bridge,
 HDR / T.Y. Lin International

Merit Award in Structural Engineer'g

- Drop Prewett Family Park
 M3 Engineering & Technology
- <u>CityScape</u>PK Associates LLC
- Casino del Sol
 PK Associates LLC
- Paolo Soleri Bridge
 PK Associates LLC

2010 Award Winners

Excellence in Structural Engineering

- Gogte Residence, Wall Remediation Gervasio & Associates, Inc.
- Student Recreation Center
 Expansion, UA
 M3 Engineering & Technology

Merit Award in Structural Engineer'g

- Musical Instrument Museum
 Meyer, Borgman, & Johnson
- Blast Strengthening, US Army Bldg QuakeWrap
- Jones Residence Trellis,
 Janelle Perry, LLC
- Support Facilities, Dysart Schools, Beauchamp Engineering, Inc.



<u>2009</u> <u>Award Winners</u>

* Excellence in Structural Engineering

Dial / Henkel U.S. Headquarters,
 Paragon Structural Design, Inc.

* Merit Award in Structural Engineer'g

- Steward WAVE Public Art Project, M3 Engr'g & Technology
- St. Katherine Greek Orthodox Church, Structural Engineers Co.
- Red Wing Bandshell, MBJ
- Jain Temple, Arun Inc.
- ASU Polytechnic Academic Complex, Paragon Structural Design
- Glendale Park & Ride, Paragon Structural Design

2008 Award Winners

* Excellence in Structural Engineering

 City of Phoenix, Downtown Civic Space Public Art Project, M3 Engineering & Technology Corp.

Merit Award in Structural Engineer'g

Performing Arts Center, Valley Vista
 High School, Beauchamp
 Engineering, Inc.



Excellence in Structural Engineering

- NAU Applied Research & Development Bldg.
 Schneider & Associates
- Asarco Hayden Smelter
 Structural Concepts, Inc.
- Alvernon Bridge
 Structural Concepts Inc.

Merit Award in Structural Engineer'g

 Steward Observatory GMT Test Tower

M3 Engineer's & Technology

Euclid/Park Bike-Ped Overpass
 Holben, Martin, & White

2006 Award Winners

Excellence in Structural Engineering

- Fox Theatre Grenier Engineerng, Inc. &
 QuakeWrap, Inc.
- Discovery Channel Telescope Enclosure –

M3 Engineer'g & Technology



* Excellence in Structural Engineering

 Dysart High School Remodel -Beauchamp Engineering, Inc.

Merit Award in Structural Engineer'g

- Paper Airplane Project M3 Engineering & Technology
- VERITAS Optical Support Structure -

M3 Engineering & Technology

2004 Award Winners

* Excellence in Structural Engineering

- Mesa Arts Center –
 Paragon Structural Design
- St. Thomas Aquinas, Church & School -

A.V. Schwan & Assoc.

Roundhouse Gymnasium –Quake Wrap

*** Honorable Mention**

Verrado Way Bridge Structural Grace

